

Work Order ID 57147

March 23, 2010 4:17:35 PM



Page 1

Item ID: D212-664-101TRN

Accept



Setup Start

Revision ID:

Item Name: Crosstube Turning Detail

Stop



Start Date: 23/03/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 31/03/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: *RL*

Date: *10-2-23*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D212-664-141

Rev D

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA113
2-Turn first side as per Folio FA113
3-File down transition lines smooth.

AK *Q* *MB* *10-04-06*

110

0.00



QC1- Inspect dimensions to dimension sheet

QC

Memo

0.00

Quality Control

D6005-128 B-53593 MB 10-04-07

AK *Q* *MB* *10-04-06*

120

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA113
2-File down transition lines smooth.
3-Remove sand and plugs

AK *Q* *MB* *10-04-06*

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 	QC1- Inspect dimensions to dimension sheet	0.00							
QC Quality Control	Memo	0.00							
140 	QC8- Inspect parts - second check	0.00							
QC Quality Control	Memo	0.00							
150 	Crosstubes Chemical Conversion	0.00							
HandFXtube Hand Finishing Crosstubes	Memo	0.00							

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Page 3

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Setup Start



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Stop



Start Date: 23/03/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 31/03/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160



QC3- Inspect Part Finish

0.00

QC

Memo

0.00

Quality Control

(1.4)

Q

MB 10-04-07

170



Packaging

0.00

Packaging

Memo

0.00

Packaging

Identify and Stock in kanban rack

Location: x-tube al

(1.4)

Q

MB 10-04-07

180



QC21- Final Inspection - Work Order Release

0.00

QC

Memo

0.00

Quality Control

10/04/07

MF
10-4-7

DART AEROSPACE LTD		Work Order:	57147
Description: Crosstube Assembly (205/212/412 High Fwd)		Part Number:	D212-664-141
Inspection Dwg: D212-664-141 Rev: D		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	0.200 ✓			
	R0.063	+/-0.010	R0.063 ✓			
	2.740	+0.005/-0.000	2.741 ✓			
	5.097	+/-0.030	5.099 ✓			
	2.304	+0.005/-0.000	2.308 ✓			
	2.340	+0.005/-0.000	2.343 ✓			
	2.398	+0.005/-0.000	2.400 ✓			
	2.448	+0.005/-0.000	2.452 ✓			
	2.498	+0.005/-0.000	2.501 ✓			
	2.549	+0.005/-0.000	2.553 ✓			
	2.599	+0.005/-0.000	2.604 ✓			
	2.671	+0.005/-0.000	2.674 ✓			
	2.701	+0.005/-0.000	2.704 ✓			
SIDE B	0.200	+/-0.010	0.200 ✓			
	R0.063	+/-0.010	R0.063 ✓			
	2.740	+0.005/-0.000	2.740 ✓			
	5.097	+/-0.030	5.100 ✓			
	2.304	+0.005/-0.000	2.308 ✓			
	2.340	+0.005/-0.000	2.341 ✓			
	2.398	+0.005/-0.000	2.402 ✓			
	2.448	+0.005/-0.000	2.452 ✓			
	2.498	+0.005/-0.000	2.503 ✓			
	2.549	+0.005/-0.000	2.553 ✓			
	2.599	+0.005/-0.000	2.603 ✓			
	2.671	+0.005/-0.000	2.675 ✓			
	2.701	+0.005/-0.000	2.705 ✓			
	126.514	+/-0.020	126.510 ✓			

Measured by: MB	Audited by: AWM	Prototype Approval:	N/A
Date: 10-04-06	Date: 10-4-07	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-101)	KJ/JLM	
B	06.03.15	Tolerance revised for 5.097 per Dwg Rev update	KJ/JLM	
C	07.05.28	Dwg Rev updated	KJ/JLM	
D	10.02.02	Dimension 126.514 was 126.51	KJ	

Item	Qty -141	Qty -141B	Part Number	Description
1	X		D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		X	D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3	1	1	D6005-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	4	4	MS21920-25	CLAMP (OR MS21920-26)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

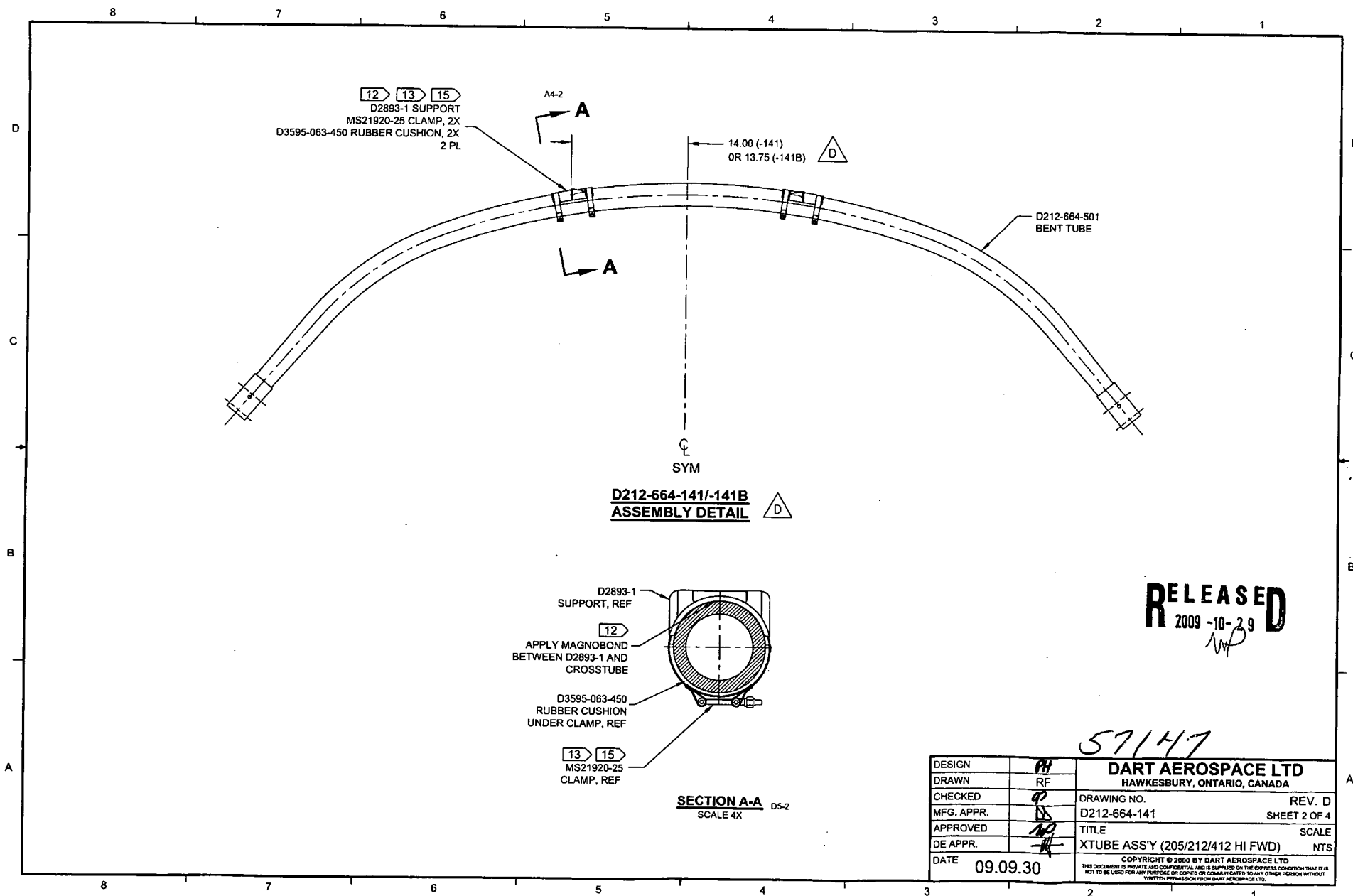
GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 128.514±0.020
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF
USING VIBRATING STYLUS
- WEIGHT: D212-664-141 = 33.6 lbs (PER IIN-D212-664)
D212-664-141B = 33.6 lbs (PER IIN-D212-664)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

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WORK ORDER
NO. 57147

RELEASED
2009-10-29

D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZN B4-3, C6-3, C8-3 & B6-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D212-664-141	SHEET 1 OF 4
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	XTUBE ASS'Y (205/212/412 HI FWD)	NTS
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D212-664-501
BENDING AND DRILLING DETAIL

10 D

RELEASED
 2009-10-29
W

57147

VIEW C-C: CUFF DETAIL
 SCALE 3X

C2-3

SECTION B-B
 SCALE 4X

C4-3

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JP	DRAWING NO.	REV. D
MFG. APPR.	JP	D212-664-141	SHEET 3 OF 4
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	XTUBE ASS'Y (205/212/412 HI FWD)	NTS
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